

FISHING FOR TRUTH: A Sociological Analysis of Northern Cod Stock Assessments from 1977-1990. Alan Christopher Finlayson. Institute of Social and Economic Research Publications. Newfoundland. 1994. Pages 186.

## Beyond scientific gospels

**Fisheries science needs to be situated in a social context, if fisheries management is to work**

In the 1980s, while they struggled to ban shrimp trawling during the fish breeding season of June, July and August, artisanal fishworkers in Kerala State, India used to ask rhetorically: "What is the most politically vexing question in Kerala during the monsoon?" The answer was another question: "Where do the fishes lay their eggs?"

Whatever be the scientific 'truth' to this question, any scientist who dared to venture an answer would risk stirring up a major confrontation between the militant artisanal fishworkers' unions and the trawler owner lobby, much to the dislike of the politicians in the state who had to please both groups to stay in power. The result was that the question never got answered, although many scientists working in government-funded research organizations had worked for their Ph.Ds on this subject. This stoic silence of the scientific community provoked the artisanal fishworkers to demonstrate before the country's largest state-supported fisheries research institution with the chant:

You white-elephant scientists and researchers  
 You servants of capitalism  
 The research you conduct:  
 Is it to save the workers  
 Or to serve the capitalists?

*Chorus:*

We are the children of the sea  
 We know the secrets of the sea  
 We don't need to be taught by anyone

Another country, another culture, another time. Yet Finlayson's book is about a similar context and similar confrontation set in Canada. It is a

complex story of the role of science in the decline of the Northern cod stocks. The main claim of this brilliant work of 'forensic sociology' is that all knowledge, including scientific knowledge, is influenced by social processes, making 'truth' an elusive concept.

In eight dense but readable chapters, the author examines how presumably objective observations about the marine biomass are mediated by what he calls 'interpretative flexibility'—the possibility of reading different but, a priori, equally plausible conclusions into a single data set—because of the degree of uncertainty about the estimates of physical reality.

Through a wide range of searching questions during interviews, the author is able to elicit almost a collective confession from fishery scientists that social and political compulsions played a big role in their interpretations. The author points out that one important reason for this is that when big science is paid for by the state, certain irrational social forces act strongly on the scientists. They are not sure on whose side they are on, nor can they act independently.

### **Views disregarded**

The chapter I liked most is titled 'Is There a Place for Fishermen in Fisheries Science?' In it, the author explains how Canadian scientists totally disregarded the views of the inshore fishermen about the state of the fish stocks because they felt that "the inshore fishermen have very little to contribute to the solutions of the fundamental problems of stock assessment", but considered the data from the offshore fishery to be "plentiful, dense and efficiently and inexpensively collected (and) easily quantified."

The author says that this attitude is not because the individual scientists wanted to “wilfully disregard” the views of the inshore fishermen as a “litany of mumbo-jumbo which they bring forth each time they talk to you.” It was rather because the very cognitive structure of their modern science did not permit them to incorporate such knowledge into their framework. It is this epistemological superiority which alienated the vast majority of the active participants in the fishery from the institution which presumably had the power to predict the future state of the fishery resources.

With the collapse of the Canadian cod fishery in 1992, the warnings and predictions of the inshore fishermen had come true. For scientists, this current impasse is more a “crisis of their own expectations (of their science), not a crisis in the state of the stocks.” For the inshore fishermen, it was a validation of their more holistic understanding of the ecosystem and their prey-in-context.

Finlayson’s methodology of research and, more importantly, the way the material collected has been written up also deserve a special word of praise. Finlayson has very ably used lengthy quotations from the persons he interviewed in the course of his study.

Particularly noteworthy is the adroit manner in which he has incorporated the words of fishery scientist Jake Rice, who provided an extensive and challenging critique of Finlayson in defence of the work and motivations of the Canadian fishery scientists. By appropriately reproducing transcripts of interviews, Finlayson preserves the context, flavour and nuances of arguments. Critics are thus given ample occasion to ‘talk’ to the reader and present their side of the story.

An important point which Finlayson brings out in the conclusion of his study merits careful consideration. He feels that a complex social structure such as a fishery has uncertainty writ large in every aspect—be it stock predictions; the ecological soundness of technologies; or the way politicians talk and act. For such a system to function effectively, there must either be coercive authority or

substantial agreement among its members about both the policy and parameters within which issues will be resolved. Neither of these situations exists in most of the crisis- and conflict-ridden fisheries in the world today.

Moving towards a context of consensus should be the aim. Fishery scientists may never be able to know enough about fish and their ecosystems to make ‘correct’ estimates and predictions. It would follow from this that fisheries management can not be based on biological sciences alone and should be acknowledged as a social process, where the essential problems are sociological and political.

It will not be necessary to recommend this book as essential reading for fishworkers. They have said all this in their own language several ‘times over in coastal communities worldwide—in Canada, Senegal, Norway, India and the Philippines, to name a few countries.

But every fishery scientist would do well to read this book because it does not debunk fisheries science, but emphasizes the need to place it within its social context.

#### **New understanding**

Such an understanding will go miles in creating the basis for an essential and renewed co-operation between those who labour to catch the fish and those who make a living studying the fruits of this labour. ¶

This review by John Kurien, a member of ICSF, and Associate Fellow of the Centre for Development Studies, Trivandrum, India